

PATENT ABSTRACTS OF JAPAN(11)Publication number : **2000-218411**(43)Date of publication of application : **08.08.2000**

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B23B 27/14(21)Application number : **11-022789**(71)Applicant : **KYOCERA CORP**(22)Date of filing : **29.01.1999**(72)Inventor : **NODA KENJI****(54) CUBIC BORON NITRIDE SINTERED BODY CUTTING TOOL**

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a high-performance cubic boron nitride sintered compact, wherein while mechanical and thermal characteristics are maintained, the falling- off of cBN particles, the wear of a binder, and the wear and damage of a tool caused by the particle falling-off are preventing during the cutting of highly hardened steel or cast iron.

SOLUTION: This cutting tool contains 30 to 90 vol.% of fine-particle cubic born nitride having an average particle size of 1 μm or lower and 10 to 70 vol.% of coarse-particle boron nitride having an average particle size of 2 to 10 μm , and the average particle size of the binder of a remaining portion is set at fine-particle cubic born nitride < binder < coarse-particle cubic boron nitride. The binder is made of at least one selected from carbide, nitride, carbon nitride, boron, a compound of these, AlN, Al₂O₃, and iron group metal containing at least one element of 4a, 5a and 6a group of the periodic table, performance having both wear resistance and damage resistance is provided.

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